

# Z1 350Z G35 ANGLE KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2003-2008	Nissan 350Z
2003-2007	Infiniti G35 (Coupe)
2003-2006	Infiniti G35 (Sedan)

## PROLOGUE:

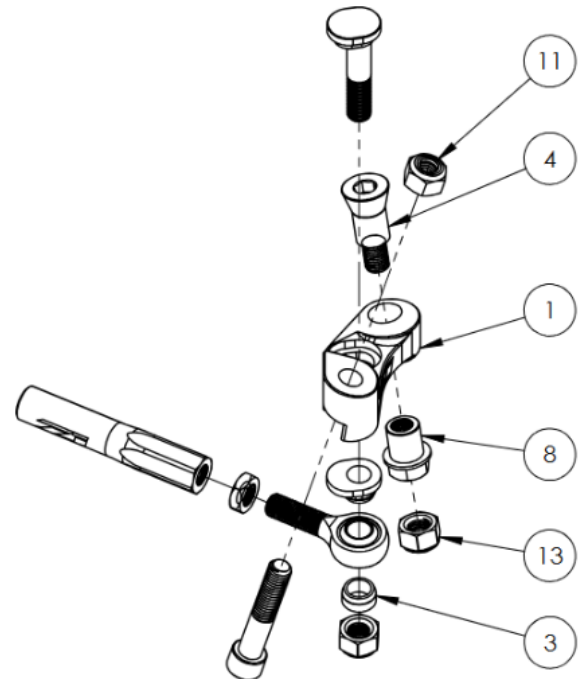
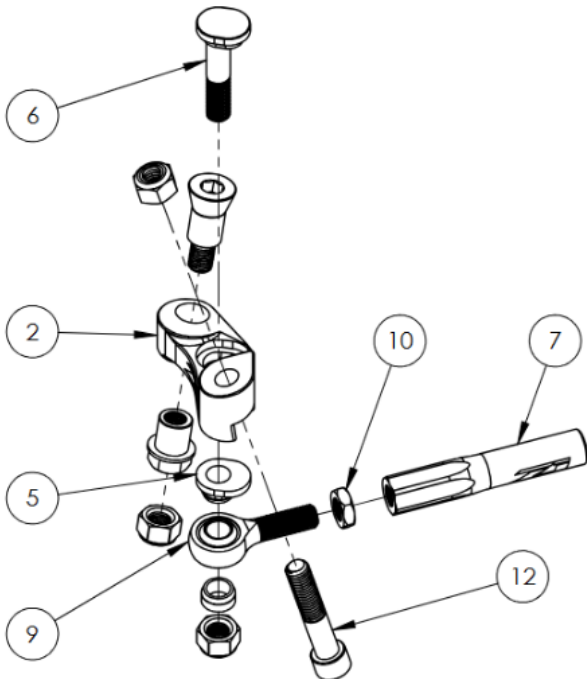
Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

## WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Motorsports 350Z G35 Angle Kit, consult with a Professional Mechanic, or contact Z1 Motorsports for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	1	Passenger Tie Rod Relocation Bracket
2	1	Driver Tie Rod Relocation Bracket
3	2	Bump Steer Spacer
4	2	Compression Rod Bolt
5	2	Ackermann Washer
6	2	Tie Rod Bolt
7	2	Tie Rod Extension
8	2	Compression Arm Shoulder Nut
9	2	Rod End Heim Joint
10	2	M14 x 1.5 LH Thread Thin Hex Nut
11	2	M14 x 2.0 Locknut
12	2	M14 x 2.0 Socket Head Bolt, 70mm
13	4	M14 x 1.5 Locknut
14	2	M16 x 60mm Bolt
15	2	M16 Jam Nut



## **TOOLS REQUIRED:**

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Wrenches
- Assorted Metric Sockets
- Torque Wrench
- Pliers
- Allen/Hex Keys
- Adjustable Wrench

## **SAFETY REQUIREMENTS:**

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain in safe space and well-ventilated areas.

## **BEFORE YOU BEGIN:**

Remove contents from the Z1 Motorsports 350Z G35 Angle Kit and verify that ALL necessary hardware is present.

## **PROCEDURE:**

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Loosen the Lug Nuts on the front of the vehicle, but do not remove.
3. Locate the proper jacking points on the vehicle's chassis (refer to the Vehicle's Owner's Manual). Raise and support the vehicle using a jack and jack stands.
4. Remove the front Lug Nuts and wheels.
5. Starting on either side of the vehicle, loosen the Jam Nut on the Outer Tie Rod. *Figure 1.*



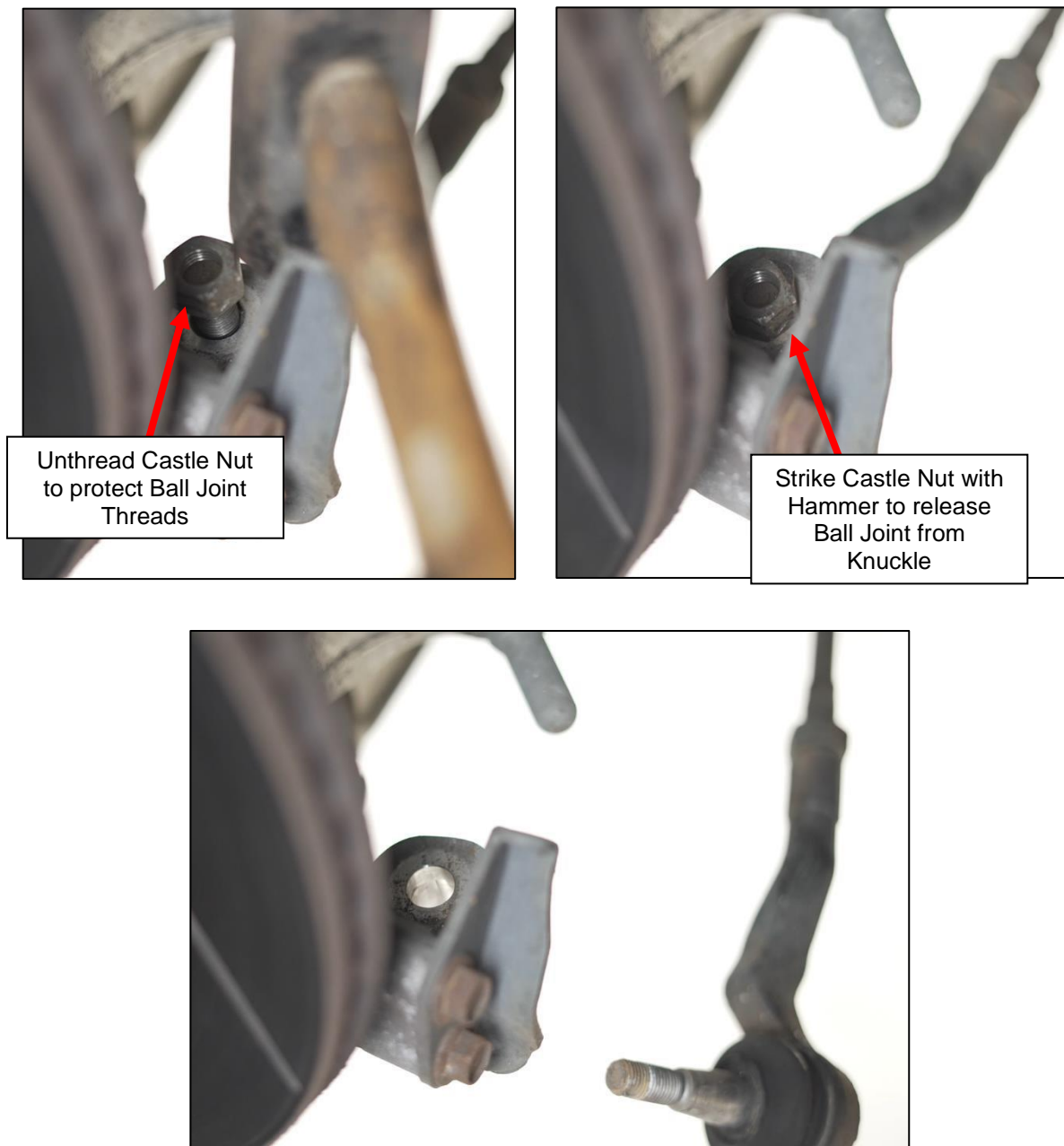
*Figure 1*

6. Remove the Cotter Pin from the lower Ball Joint Castle Nut. *Figure 2.*



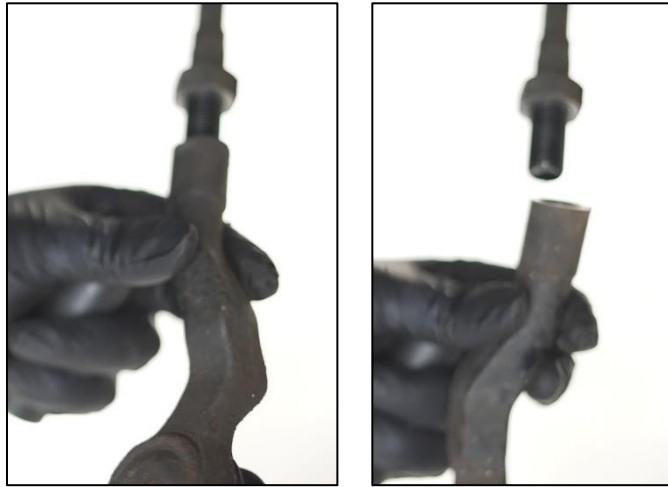
*Figure 2*

7. Loosen the nut on the lower Ball Joint, but do not fully remove it. Leave a few threads of the nut on the Ball Joint and hit the nut with a hammer to remove the Ball Joint from the Knuckle. *Figure 3.*



*Figure 3*

8. Unthread the Outer Tie Rod from the Inner Tie Rod. *Figure 4.*



*Figure 4*

9. Remove the Cotter Pin and Nut securing the Compression Rod Ball Joint to the Knuckle. *Figure 5.*



*Figure 5*

10. Locate the Tie Rod Relocation Bracket, Compression Rod Shoulder Nut and Loctite. Apply Loctite to the threads of the Compression Rod Shoulder Nut.

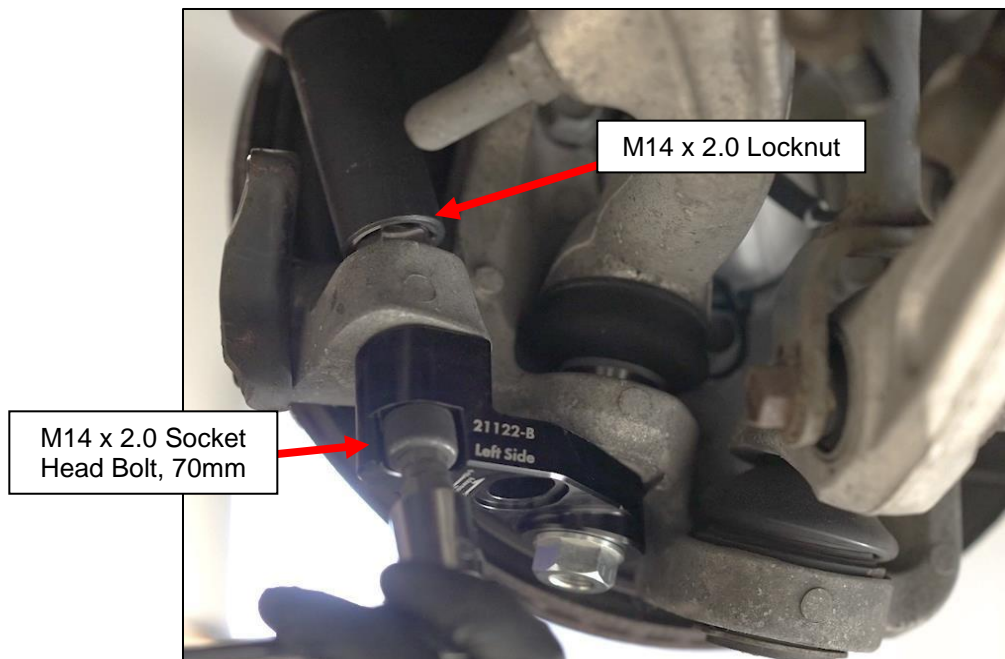


11. If your Compression Rod unseated itself when the nut was removed, push down on the Compression Rod, center the Ball Joint Threads and position the Tie Rod Relocation Bracket in place. It may help to have a partner hold the Compression Rod down while you align the Bracket and secure with the Shoulder Nut. *Figure 6.*



*Figure 6*

12. Locate (1) one M14 x 2.0 Socket Head Bolt, 70mm and (1) one M14 x 2.0 Locknut. Using a 14mm Allen/Hex Key, insert the Socket Head Bolt through the bottom of the Tie Rod Relocation Bracket and secure with the Locknut on the top. Do not fully tighten the Locknut yet. *Figure 7.*

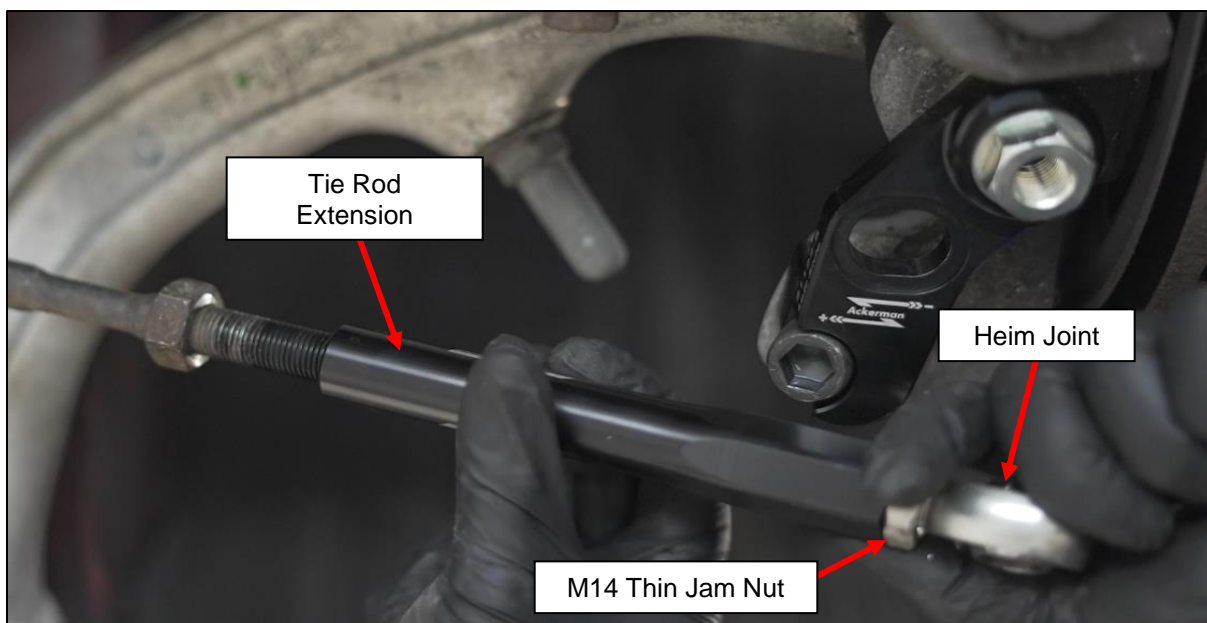


*Figure 7*

13. Locate (1) one Tie Rod Bolt, Ackermann Washer, Heim Joint Rod End, Bump Steer Spacer, M14 x 1.5 Thin Jam Nut and Tie Rod Extension.

**NOTE:** If you are using Offset Steering Rack Spacers, you will need to use the shorter Tie Rod Extension, Part Number: 21122-K.

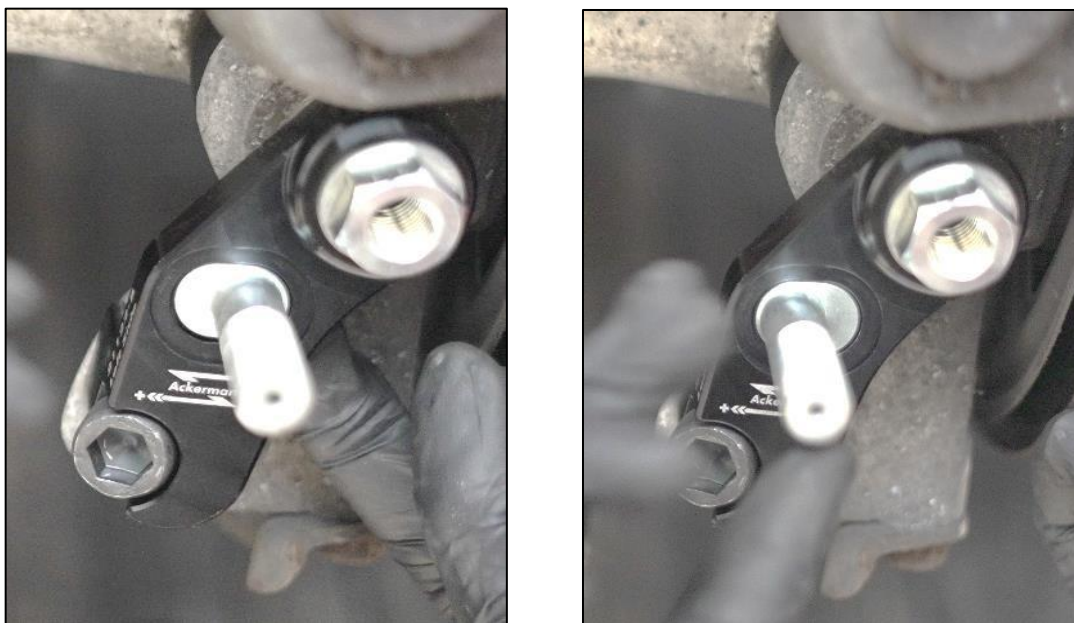
14. Install the Jam Nut onto the Rod End then install the Tie Rod Extension. Thread the Outer Tie Rod Assembly onto the Inner Tie Rod. *Figure 8.*



*Figure 8*



15. Install the Tie Rod Bolt into the top side of the Tie Rod Relocation Ackermann Slot. This slot can be installed in either direction, either offsetting the bolt outboard or inboard. In the outboard setting (shown below at left) it will provide less Ackermann and steer the wheels more parallel, which is what many drivers prefer for drifting. The outboard setting (shown below at right) will provide Ackermann closer to the factory setting. Different drivers have different preferences, which may even change depending on the track or type of motorsport. For most drifters, the negative (or outboard) setting is preferred on track. *Figure 9.*



*Figure 9*

16. Install the Ackermann Washer on the underside of the Relocation Bracket in the same orientation as the bolt. *Figure 10.*



*Figure 10*

17. Install the Heim Joint Rod End onto the Tie Rod Bolt. After, install the Bump Steer Washer with the conical side toward the Heim Joint. Loosely secure with the M14 x 1.5 Locknut. *Figure 11.*

**NOTE:** You will likely need to turn wheel inboard for the Tie Rod End to reach the bolt. You may also need to rotate the Tie Rod Extension to lengthen the Outer Tie Rod. While doing so make sure to hold the Heim Joint in place so that the Tie Rod Extension is unthreading from both the Heim Joint and the Inner Tie Rod at the same time.



Figure 11

18. Torque the Compression Rod Shoulder Nut to **56-69 ft-lbs**. You may need to apply pressure by pulling down on the Compression Rod or by using a pry bar to prevent the Ball Joint from rotating.
19. Torque the Socket Head Bolt and Nut to **56-69 ft-lbs**.
20. Align the Heim Joint so it is perpendicular to the Bolt. If the Heim Joint is not properly aligned before torquing, it can cause damage to the bolt. Recommended torque spec for the nut securing Heim Joint Tie Rod End is **35-45 ft-lbs**. The factory torque spec is **22-28 ft-lbs**, but since the Z1 Tie Rod Bolt is a larger M14 thread, we recommend a bit higher. All the nuts supplied are Locknuts and you can use Loctite for extra reassurance. *Figure 12.*

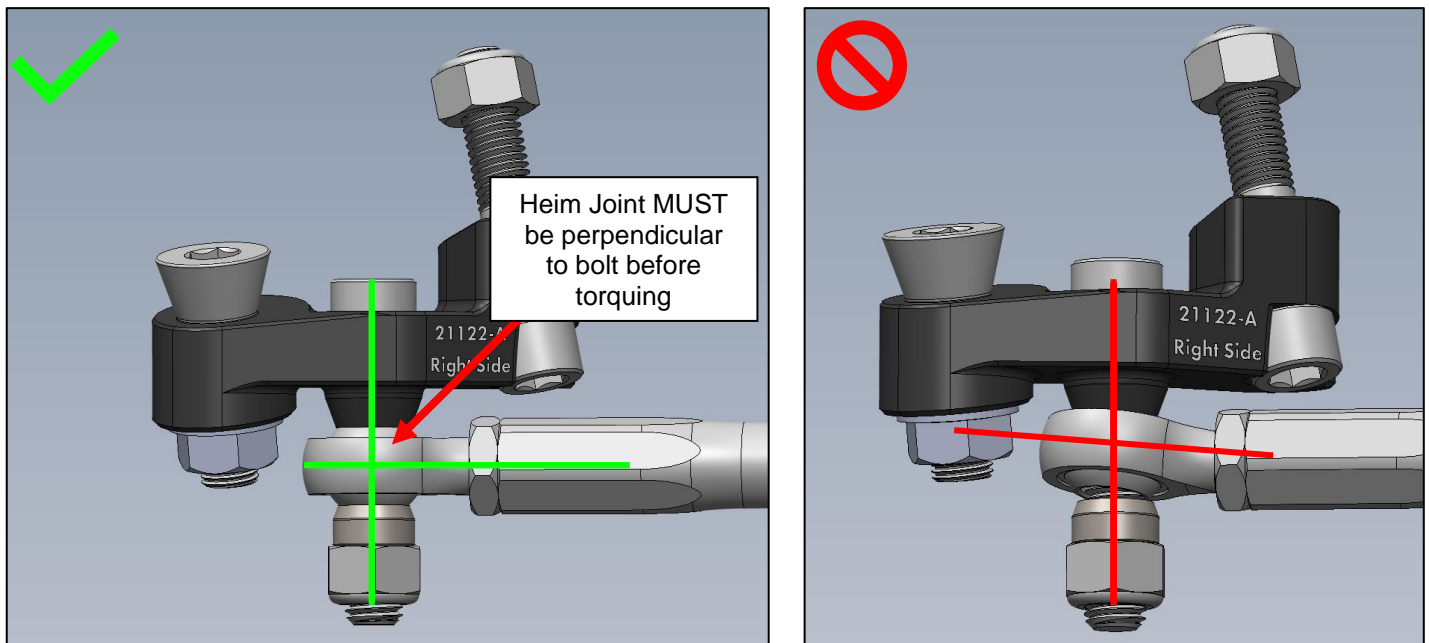


Figure 12

21. Remove the OE Steering Stop from the Compression Rod. Install the M16 x 60mm bolt with the Jam Nut into the Compression Rod. This bolt will now function as an Adjustable Steering Stop. You can thread it out to the same distance the factory one was at or further in to allow more steering angle. Use the M16 Jam Nut to lock the Adjustable Steering Stop in place.

Depending on your suspension settings, how low your car is, and what other suspension arms you have will change how much angle you can get and when the Steering Stop will engage. It is recommended that your Steering Stop contacts the bracket on the knuckle just before any other suspension component contacts anything else.

The next contact point is often the Lower Shock Mount Bolt. It is recommended to flip this bolt around so that the head of the bolt is towards the rear of the vehicle.

After the Lower Shock Mount Bolt is flipped, the Compression Rod is often next to contact the Coilover. Without a High Clearance Compression Rod, it is recommended to set the Steering Stop to contact just before the Compression Rod contacts the Coilover.

22. Repeat Steps 5-21 for the other side of the vehicle.
23. Reinstall the Front Wheels and lug nuts.
24. Safely lower the vehicle from jack stands.
25. Torque Lug Nuts to **85 ft-lbs.**
26. Eyeball a Toe Alignment before having it properly aligned at a shop. Jack the vehicle back up loosen the Jam Nuts on the Tie Rod Extensions. Rotate the Tie Rod Extension to unthread/thread from both the Inner Tie Rod and Heim Joint until the Toe looks relatively straight and then tighten the Jam Nuts on the Tie Rod Extension.
27. Have your vehicle properly aligned at a shop.

**NOTE:** Some parts within this kit will not be used unless you use the Z1 High Clearance Control Arm Kit.

**END**

**Additional Technical Support:**

Contact Z1 Motorsports at [info@z1motorsports.com](mailto:info@z1motorsports.com)

Or call 770-838-7777 between 9am and 6pm ET